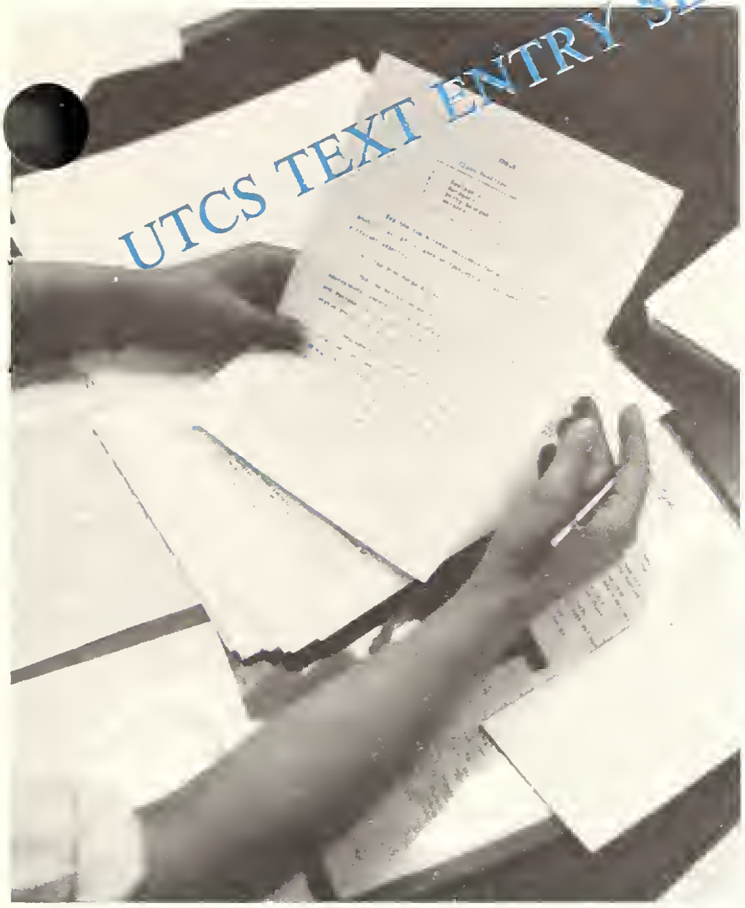
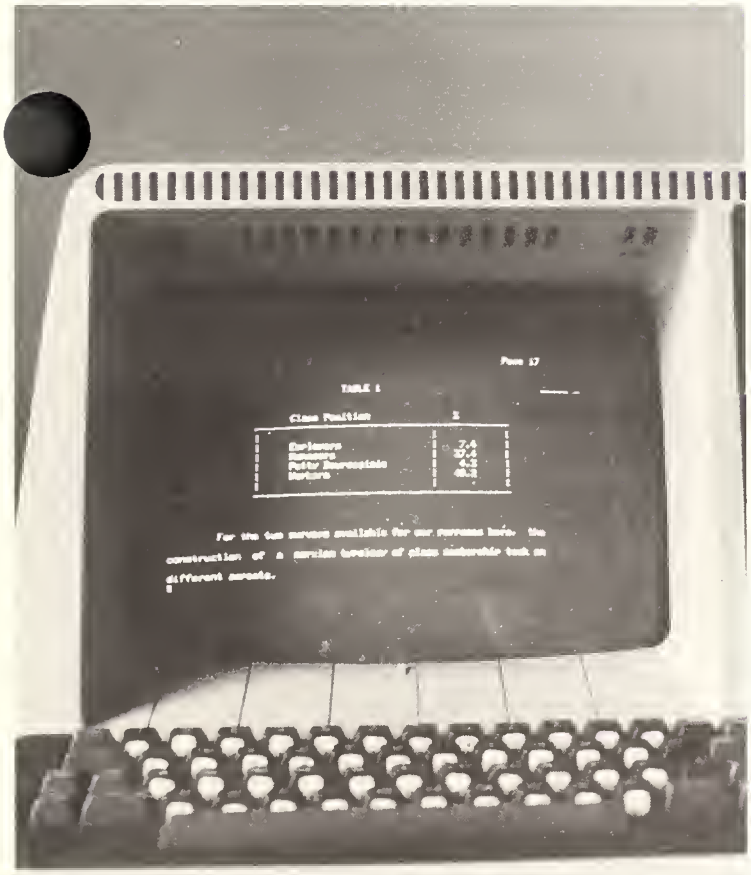
COMPUTERNEWS

UTCS TEXT ENTRY SERVICES





University of Toronto

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TEXT ENTRY SERVICES

Since the announcement in March 1979 of the availability of a text entry service at UTCS, demand within the university community for this exciting and new service has been steadily growing. Theses, reports, manuscipts, papers, directories and other documents requiring multiple drafts can be handled quickly and efficiently by UTCS's Text Entry Group.

Text Entry Services is particularly effective in handling large quantities of text, requiring multiple corrections and revisions, and in providing fast turnaround and high quality final copy. Once your document has been formatted according to your specifications, it can be directed to a high speed printer for inexpensive draft copies, or to a high quality output device for the final or good copy.

Becoming a user of UTCS Text Entry Services is easy. First contact your Computing Services Representative. Your CSR will be able to determine your text entry requirements, establish an account for you if necessary, and determine your scheduling needs. When all or part of your document is ready to be passed to the Text Entry Group, the rough document and all formatting specifications should be submitted to your Computing Services Representative for handling. If it is more convenient, the rough document and formatting specifications may be submitted directly to the Text Entry Group in the McLennan Physical Laboratories building, room 368. You will be given an estimate of the turnaround time based on the document length, formatting complexity and the general workload. You will be informed when your document is ready for pick-up and proofreading, or you may direct status inquiry calls to the Text Entry Group at 978-4565.

The final or good copy of the document is prepared using high quality paper and ribbons. As such, the final copy that you receive is ready for binding, microfilming, or duplication. Any document prepared by Text Entry Services may be archived on your tape after the final copy has been produced, and may be retrieved for further modifications at some future time.

Rates charged by UTCS's Text Entry Services are extremely competitive with other document preparation services. The current UTCS text entry rates are as follows:

Text Entry	$10.00 per hour
Text Changes	$10.00 per hour
Draft Copy Output	$ .25 per page
Final Copy Output	$ .50 per page

Text Entry Services... Consider the benefits and the competitive rates! Consider the time you can save by using this service. Consider the money you can save when you need inexpensive multiple draft copies. Consider the ease with which you can include important last minute corrections.

Talk to your Computing Services Representative or to the Text Entry Group at 978-4565 to find out how UTCS can help you solve your text entry needs.

Walter Berndl

UTCS'S CALENDARS PROJECT

During the past academic year, UTCS has been actively involved in the plan to automate the production of several academic calendars. Early last fall, UTCS met with members of the University of Toronto Press to investigate the possibility of offering a joint service to produce typeset output using available computer resources. Once both parties were in agreement as to the feasibility of the project, UTCS and the Press met with representatives from the Faculty of Arts and Science, the Faculty of Applied Science and Engineering, Scarborough College, and Erindale College to discuss the possibility of providing a computerized typesetting service which could be used in the production of the various faculty and college calendars.

Throughout the calendars project, UTCS provided those involved in the project with extensive training and support. The contributions of Dr. Frank Spitzer are especially noteworthy since, to a large extent, it was Dr. Spitzer's expert advice and diligence which enabled those involved in the project to overcome many of the obstacles which are bound to occur in an undertaking of this kind. UTCS is pleased to announce the successful completion of the calendars project. The faculties have all reported a savings in cost related to calendar production and UTCS has gained experience in the area of computerized typesetting.

The following article describes the use of the computerized typesetting service in the preparation of the Scarborough College calendar. Scarborough College's experience with the typesetting service was similar to the experiences of the other groups involved in the project.

Don Gibson

THE SCARBOROUGH CALENDAR

In the preparation of the 1979-80 Scarborough College academic calendar, the Scarborough College administration decided to make use of the services available on UTCS's DEC 1090 computer. The primary DEC 1090 facility used in the preparation was the SOS text editor. This method of document preparation is dramatically different from the method used in previous years.

In the past, each division prepared its own course descriptions by typing the course information onto standard forms using ordinary typewriters. These forms were then photographically reduced and, along with additional artwork, were sent to a printing company for printing and binding.

Mrs. G. Curri, the Scarborough College Registrar, stated that there were several factors which contributed to the decision to make use of the text processing facilities available at UTCS. One factor was the expected reduction in calendar preparation

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THE SCARBOROUGH CALENDAR cont'd

time. It was understood that this benefit would not be fully realized until the following year (1980-81). To explain, whereas the old method of document preparation meant retyping the entire calendar every year, with the new method the text of the calendar would only have to be entered and stored on the DEC 1090 once. Future editions would involve updating operations only.

Because members of the Registrar's Office handled the text entry and editing, the workload of the divisional secretaries was reduced considerably. This method also allowed for better control over the project schedule. Mrs. Curri also felt that the editing capabilities available with the SOS text editor made it easy to control and/or modify the overall format of the calendar. Furthermore, it was possible to incorporate last minute changes without much difficulty.

Mr. Ihor Prociuk, the Computing Services Representative at Scarborough College, was responsible for providing courses explaining the capabilities and use of the SOS text editor program. This information was provided in a 12 hour course given over four days. The availability of interactive terminals made the course material much easier to present and provided the participants with "hands-on" experience using SOS. A course follow-up resolved the initial problems which had been encountered. The general opinion of the members of the Registrar's Office who participated in the course was that the SOS text editor was easy to understand and use and that the SOS text editor program is a very powerful tool which could be used in the performance of many office duties. For example, the SOS text editor program could be used to maintain an up-to-date telephone directory for the College.

Once the final or good copy of the calendar had been prepared, it was sent to the University of Toronto Press for typesetting and printing. Embedded within the text of the document which was sent to the U of T Press were various typesetting commands. These commands are recognized by the ITPS-10 program (the Inhouse Text Preparation System-10) as formatting instructions and are used to specify such things as bold face text, italics, right and left margins and other formatting and typesetting considerations. The ITPS-10 program produces a formatted file which, if printed on a high speed computer line printer, simulates the formatting performed by the actual typesetting machine.

To summarize, Scarborough College is pleased with the results of its decision to make use of the text processing facilities available at UTCS. Scarborough College is particularly pleased that this new method of document preparation has resulted in substantial savings in the cost and time involved in producing the academic calendar.

Ihor Prociuk

LECTURE SERIES REPORT

UTCS and IBM Canada recently co-sponsored two lectures intended for researchers within the university community. On May 17, Dr. J.V. Dave from the IBM Scientific Centre in Palo Alto, California lectured on the subject of solar radiation research. During his presentation, Dr. Dave explained how this research can be practically applied in the areas of isotropic distribution approximation and the photovoltaic harvesting of solar energy.

The following week, Dr. Y. Bard from the IBM Scientific Centre in Cambridge, Massachusetts presented an overview of the activities taking place at the Cambridge Centre. As well, Dr. Bard presented a model describing system loading.

Both speakers were well received and UTCS would like to extend thanks both to the speakers and to IBM Canada for making the lectures possible. Due to the favourable reception of these lectures, UTCS and IBM will investigate the possibility of offering an expanded series for the fall and winter terms. We are especially interested in receiving suggestions for topics from members of the research community. Suggestions may be forwarded to either Frank Spitzer (978-4619) or Don Gibson (978-5568).

Don Gibson

REPORT ON THE HUMANITIES MEETING

In late April, Dr. J. Hurd, Chairman of the Humanities Users' Group, called a group meeting. The group was fortunate to have Dr. Phillip Smith from the University of Waterloo as a guest speaker.

Dr. Smith is the Faculty Advisor for the Arts Computing Office at Waterloo and as such has been actively involved in computing as it relates to the Humanities. Since Humanities computer users at the University of Toronto have only recently begun to organize as a group, it was felt that it would benefit the group to have Dr. Smith discuss the organization, development and scope of the Arts Computing Office at Waterloo.

The Arts Computing Office was established 8 years ago as a result of the successful completion of the Victorian Periodicals Directory, a directory which was produced using available computer resources. The University of Waterloo recognized that for applications of this nature, additional expertise and assistance would have to be made available to Humanities users. Thus, the Arts Computing Office was established.

With the Arts Computing Office are two permanent system analysts and one part-time analyst. In addition, two full-time clerical staff are assigned to the Office. Dr. Smith has been associated with the office since its inception. Two of the better known projects which have been completed with the assistance of the Arts Computing Office are the Beowulf project and

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HUMANITIES MEETING cont'd

the Anglo-Saxon Poetic Records project.

During the past several years, the responsibilities of the Office have been expanded to include assistance to social scientists as well as humanists. In addition, the group is responsible for the operation of a remote batch station for Arts users.

Dr. Smith's general approach in the delivery of computing services to humanists is to attempt to consult with potential users as early as possible and to try to make the new user as self-sufficient as possible. Ideally, he likes to meet with the potential user when the user's project is still in the planning stages. At this point, he is able to recommend methodologies and assist in grant applictions. Throughout the various stages of the user's project, the office constantly encourages self-sufficiency. For instance, users who are interested in preparing text for a concordance program are encouraged to learn how to use a text editor so that the users can prepare the text themselves. This approach saves money for the user and provides the staff with more time for technical concerns, such as the running of prepared text through the concordance generator.

Generally speaking, the Arts Computing Office is responsible for writing small programs and shepherding the user through his project. An exception to this general statement, however, is the concordance program WATCON which was developed by Dr. Smith and his staff. UTCS has recently aquired this package as a supplement to its own concordance package COGS and to the COCOA package. While each of the packages perform many similar functions, each has its own unique features. Both Dr. Smith and John Bradley from UTCS share the opinion that it is very difficult for a user to directly use any of the available concordance packages. This stems from the fact that concordance packages are generally developed for specific applications. It is usually less expensive both for the user and for the staff to have the staff develop the concordance programs on behalf of the users.

During the meeting, the future of computing in the Humanities was discussed. The general opinion indicated that better man/machine interfaces were required and that young Humanities scholars needed to become more educated in the area of computing.

Dr. Smith's visit provided Humanities users with the opportunity to see how problems similar to the ones they have been experiencing have been solved by the Arts Computing office and provided an opportunity to exchange ideas. UTCS, on behalf of the Humanities Users' Group, thanks Dr. Smith for his valuable contribution to the meeting.

Don Gibson

CLASS E IS HERE!

On May 14, the new Class E service became operational. Class E jobs execute programs which have previously been compiled into executable load modules and stored on disk. The jobs are executed on the IBM S/370-165-II computer and unit record input/output services are performed by the IBM 3033 Processor. The charging rate for CPU and I/O wait time is an incredibly low $0.50 per minute; however, a minimum charge of $15.00 applies to this item.

Class E has been designed primarily for those users with large FORTRAN programs. Programs written in most other languages require access to a library of routines during execution. For example, PL/I programs must have access to the PL/I runtime library during execution. In order to keep computing costs as low as possible, these libraries have not been leased for use on the S/370-165-II computer.

Preliminary Class E documentation is available at the UTCS Information Office and at the UTCS remote terminal sites. General questions concerning Class E can be directed to any Computing Services Representative.

Bob Chambers

SUMMER CLASS C SERVICE CHANGES

For the past three summers, UTCS has offered Class C service at a reduced rate for memory and expanded hours of operation of the class. Once again, this service will be offered for a four-month period commencing at 00:00, Monday, June 4, 1979 and extending until Sunday, September 30, 1979. The highlights of the service changes, which are the same as last year, are documented below.

1. The rate at which memory is charged will be reduced from the former service factor of 0.75 times the standard memory charge to a new effective service factor of 0.375, one half of the former rate.

2. CLASS C service on weekdays may begin prior to midnight at UTCS's discretion if the normal class loads have effectively dried up by that time. Should new CLASS A/B loads develop, CLASS C service will be suspended until these loads disappear again. On weekends, again at UTCS's discretion, CLASS C jobs that were in the CLASS C queue prior to the weekend will be run during periods of idle time.

3. The operators have been allowed, under certain precisely defined circumstances, limited authority to 'break the FIFO rule' or allow queue-jumping. The circumstances are typically as follows:

    a. The time window remaining for CLASS C service on weekday shifts is too small to run the top job on the queue. The operator may scan down the queue until he finds the first job that will 'fit the window' in order

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SUMMER CLASS C SERVICE cont'd

to allow optimal usage of service availability.

b. The job at the top of the queue cannot run because of non-availability of one or more peripheral devices. There are two cases here. The first case concerns a device which is down and awaiting maintenance. In this case the operator will select the next job and proceed with the queue, returning to the original top job when the device is repaired. The second case concerns non-availability of devices because they are already allocated to a CLASS B job(s). In this case the operator will determine whether the devices will be available shortly. If so, he will wait so the top job may run. If not, he will scan down the queue looking for the first job that can run without the device(s) and release it, provided that the time estimation of this job is the same order of magnitude of the job(s) that is being held because of device non-availability. Again, he will return to the top of the queue as soon as the devices become available and will proceed under FIFO rules as normal.

All these rule modifications have been made to allow maximum usage of the CLASS C service time available. Except for the changes listed in this article, existing CLASS C rules and unique CLASS C credit request restrictions still apply. Users are referred to USERBOOK module 3.3BATCH and USERBOOK chapter 3.2 for further CLASS C information.

For further information regarding summer service changes for CLASS C, please contact a Computing Services Representative.

Paul Scarborough

THE NUMERICAL METHODS CONSULTING SERVICE CEASES OPERATION

The Numerical Methods Consulting Service (NMCS) was established in the fall of 1978. Its purpose is to provide detailed advice to users with complex computational problems of a numerical nature. In this role, NMCS has solved well over 100 problems to date involving such areas as ordinary differential equations, partial differential equations, linear algebra, eigenanalysis, special functions and optimization.

Unfortunately, UTCS is unable to continue this service due to financial considerations and NMCS will cease operation on July 31, 1979. Mr. Imre Farkas has done an excellent job in his capacity as the NMCS advisor and more than anyone else is responsible for the success NMCS has had.

Bob Chambers

DECSYSTEM-10 NEWS

Disk Upgrade

The upgrade from RP04 to RP06 double density disk drives is now complete. The final three RP06s were delivered on May 14. By May 25 they had been installed and all file structures had been transferred to the new drives.

The structure known as DSKB was doubled in size to over 600,000 blocks in order to ease the space limitations which had previously been imposed on UTCS's users. UTCS internal staff are now restricted to DSKC.

During this process, the "cluster size" for both DSKB and DSKC was refined so that only five disk blocks at a time will be allocated as files are created. This will introduce a certain amount of additional monitor overhead. However, we believe that users will appreciate the benefits which will result from more efficient use of disk storage. In particular, there will be fewer allocated but unused blocks for which storage charges must be paid.

In addition, the second RH20 disk channel is now in full operation. Its presence should improve I/O throughput for the entire system and reduce the effects of a high swapping rate during periods of peak load.

Spring DECUS

Twice a year, the Digital Equipment Corporation User Society meets to discuss topics which are of general interest to various DEC installations and to hear first hand what various Digital staff members have been working on and what their plans for the future are. This year, the spring meeting for DECsystem-10 and DECsystem-20 users will be held in Atlanta, Georgia, from June 5 to June 8.

In the next issue, we hope to provide a short summary of the events which occurred at this conference.

Edmund West

ALLOC, CONVERT, AND SCRATCH PROCEDURES CHANGED

Users should note that the ALLOC, CONVERT, and SCRATCH procedures for controlling online dataset storage have been changed. For these procedures, UNIT=3330 is no longer valid; users should specify UNIT=USER or leave the UNIT specification off.

As part of the changes, the ALLOC and CONVERT procedures now use the TSO command REGISTER to perform their function while the SCRATCH procedure uses the SCRATCH TSO command. The result should be better diagnostic output and clearer messages.

User comments are welcome and should be forwarded to a Computing Services Representative.

Alex Nishri

Editor's Note: The following article was written by one of UTCS's Engineering Science undergraduate users. Users interested in submitting articles for publication in COMPUTERNEWS are encouraged to forward contributions to Janet Barr or Cathy Gillevet in the Engineering Annex, Room 206. All articles are welcome.

PROGRAMMER DEFINED CONTROL STRUCTURES FOR SNOBOL4 AND SPITBOL

A common complaint about SNOBOL based languages is that they have no formal control structures (DO loops, CASE statements, etc.). However, by using defined functions and the NRETURN feature, a programmer can construct his own formal structures.

The key to this lies in the handling of the goto field. Any valid NAME is an acceptable argument. Also, the goto field can be arbitrarily complicated. Thus, a defined function can be the argument for the goto. An illustration:

The following program simulates an ALGOL-type CASE statement.

```
     DEFINE('CASE(PARAMETER)')        :(JUMP)
CASE CASE = EQ(PARAMETER,1) "FIRST"  :S(NRETURN)
     CASE = EQ(PARAMETER,2) "SECOND" :S(NRETURN)
     etc.
     CASE = GE(PARAMETER,N) "LAST"  :(NRETURN)
JUMP
```

Any number of labels can be used, and conditions depend on what is required. The only restriction is that labels should appear as literal strings in quotes. Otherwise, the effects would involve indirect addressing of the labels. If this is desired, it can be employed, however, care must be taken in constructing the labels.

The function given above could be rewritten to pass the list of labels as parameters, however, this procedure would become very cumbersome.

The CASE statement above is invoked within the goto field:

```
 Parameter = INPUT     :(CASE(PARAMETER))
```

The NRETURN facility is very useful for generating gotos, and it is quite feasible to implement special control structures using the method described in the above.

Henry Troup

PERSONNEL CHANGES

Kathleen Sloan is a new Management Secretary in the McLennan Laboratories Management Office. Before joining us, Kathleen was with the Open Circle Theatre in Toronto working as an Administrative Assistant.

Bill Lauriston is replacing Helen Peacock as the new Contract Programming Supervisor in the Administrative Computing Services area. In his last position, Bill worked as a Project Administrator for the University.

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PERSONNEL CHANGES cont'd

Michelle Mulé is replacing Pat Graham as a Clerk Typist in Accounting and Information Services.

David (Dave) Reed is a new advisor at the Engineering Annex Terminal. Dave's previous position was with Southam Business Publications (Library).

Sean Keeley has recently left his position as Systems Manager to join the Bank of Nova Scotia where he has accpeted a technical position.

After nearly ten years as a terminal operator, Muriel Elles will be leaving Erindale College. We wish her luck in the future.

Lucky Yvonne Bowen! She is leaving at the end of May to live in sunny Florida.

Clara Pereira

RECENT ACQUISITIONS IN THE DEPARTMENT OF COMPUTER SCIENCE LIBRARY

American Society for Information Science.
Proceedings of the annual meeting - no. 15 (1978)

Baker, Christopher T.H.
The numerical treatment of integral equations.
Oxford, Clarendon Press, 1977.

Bellman, Richard Ernest.
An introduction to artificial intelligence: can computers think?
San Francisco, Boyd & Fraser, 1978.

Hwang, Kai.
Computer arithmetic: principles, architecture, and design.
New York, Wiley, 1979.

Kobayashi, Hisashi.
Modeling and analysis: an introduction to system performance methodology.
Reading, Mass., Addison-Wesley, 1979.

Kraemer, Kenneth L., ed.
Computers and local government, v.1: a manager's guide, ed. by K.L. Kraemer and J.L. King.
New York, Praeger, 1977.

Newman, William M. and Sproull, R.F.
Principles of interactive computer graphics. 2d. ed.
New York, McGraw-Hill, 1979.

Online Conferences, Ltd.
Transnational data regulation: the realities.
Wellesley, Mass., Q.E.D.
Information Sciences, Inc., 1979.
(Papers presented at two conferences: Brussels, Feb. 1978 and New York, Nov. 1978.)

UTCS SYSTEMS

3033 PROCESSOR

- located in McLennan Physical Laboratories
- provides General Purpose Job Stream, High Speed Job Stream, TSO, WYLBUR
- 6 megabytes of memory
- MVS with JES2

SYSTEM/370 MODEL 165-II

- located in McLennan Physical Laboratories
- provides APL and ATS services
- 4 megabytes of memory
- OS/MVT with APL and ATS

3031 PROCESSOR

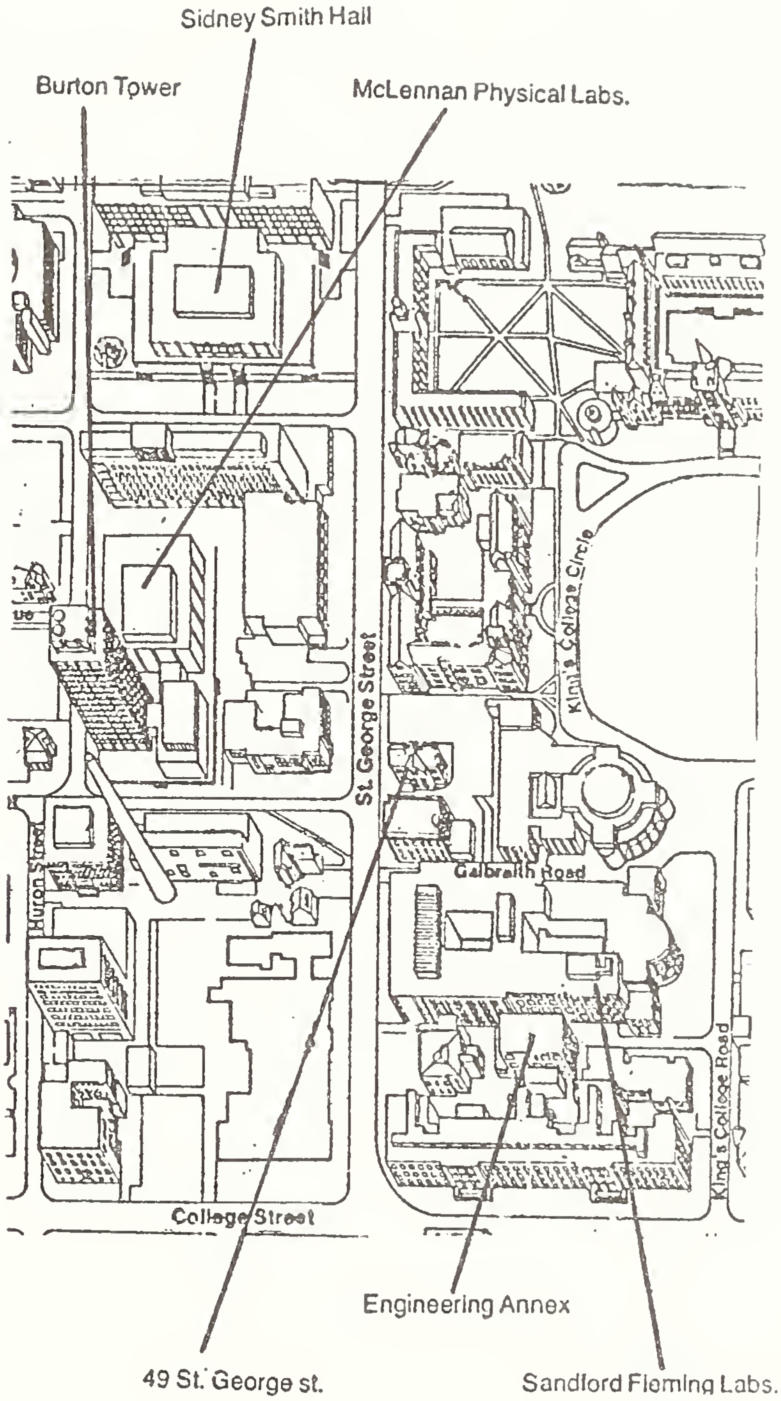
- located in McLennan Physical Laboratories
- provides administrative IMS/VS DB/DC Batch and TSO services
- 6 megabytes of memory
- MVS with JES2

DECSYSTEM 1090

- provides General Purpose Time-Sharing
- 256k - 36 bit words of memory
- TOPS10 operating system

COMMUNICATIONS & SMALL SYSTEMS

- located in SF207/SF109/112
- DEC GT44 System with PDP-11/40 CPU
- DEC GT40 System with PDP-11/05 CPU
- provides specialized graphics and interactive graphics
- provides on-line and real-time computing services, data acquisition and minicomputer services



UTCS DIRECTORY

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ASSOCIATE DIRECTORS		
Rein Mikkor	ML350	5058
Al Heyworth	ML350	4936
FACULTY LIAISON OFFICER		
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MANAGER, OPERATIONS		
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Walter Berndl	ML350	7331
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ACCESS CODES		
Agatha Stevens	EA206	8703

SUPERVISOR, APPLICATIONS

Herb Kugel	SG304	7286

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TS Advisors	SG204	6465
Mark Tapia	SG204	7109
Erindale		
Paul Shindman		828-5311
Scarborough		
Ihor Prociuk		284-3173
Arts and Science		
Sue Chong	SS2133	6509
New Physics		
Bob Chambers	ML1202	8823

SUPERVISORS, OPERATIONS

Paul Scarborough (IBM 3033)	ML335	6220
(IBM 165 & DEC 1090)	ML335	7374
Dave Wong (IBM 3031)	ML335	6846

KEY:

EA = Engineering Annex
SG = 49 St. George
ML = McLennan Physical Laboratories (New Physics)
SF = Sandford Fleming
SS = Sydney Smith

JOB AND SYSTEM STATUS QUERIES

SYSTEM/3033,TSO	7373
ATS/APL	6234
2741 TERMINAL MALFUNCTIONS	7107

TIME-SHARING SERVICES	DIAL-UP
APL,ATS	7200 CENTREX 7201 NON CENTREX
TSO,WYLBUR	6200 CENTREX 6201 NON CENTREX
DEC 10 SERVICES	4224 CENTREX 4244 NON CENTEEX
PHONE-IN ADVISING	6465

University of Toronto
Computing Services
Toronto, Canada